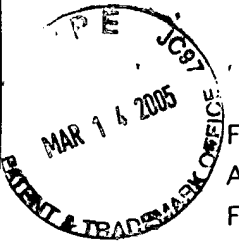


IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



First Named Inventor: Per-Åke Larson

Attorney Docket No.: 10/805,083

Application No.:

Group Art Unit: Not Yet Assigned

Filed: March 19, 2004

Examiner: Not Yet Assigned

Customer No.: 22971

Confirmation Number: N/A

Title: ENFORCING CURRENCY AND CONSISTENCY CONSTRAINTS IN DATABASE QUERY  
PROCESSING

Mail Stop Amendment

Commissioner for Patents

P.O. Box 1450

Alexandria VA 22313-1450

STATEMENT FILED PURSUANT TO  
THE DUTY OF DISCLOSURE UNDER 37 C.F.R. §§ 1.56, 1.97 AND 1.98

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§ 1.56, 1.97 and 1.98, the  
Applicant requests consideration of this Information Disclosure Statement.

PART I: Compliance with 37 C.F.R. § 1.97

This Information Disclosure Statement has been filed before the mailing date of a  
first Office Action on the merits in the above-identified case. No fee or certification is  
required.

PART II: Remarks

The Applicant hereby makes of record in the above-identified application the  
information listed on the attached forms PTO/SB/08A and 08B. The order of  
presentation of the references should not be construed as an indication of the  
importance of the references. Documents cited on the attached forms PTO/SB/08A and  
08B are enclosed unless otherwise indicated. It is respectfully requested that:

1. The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;
2. The enclosed form PTO/SB/08A be signed by the Examiner to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application;
3. The citations for the information be printed on any patent which issues from this application.

By submitting this Information Disclosure Statement, the Applicant makes no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

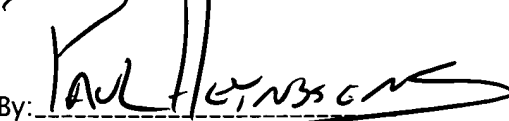
By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. § 102.

Notwithstanding any statement by the Applicant, the Applicant urges the Examiner to form his own conclusion regarding the relevance of the cited information. An early and favorable action is hereby requested.

Respectfully submitted,

MICROSOFT CORPORATION

By: 

Paul B. Heynssens, Reg. No. 47,648

Microsoft Corporation

Redmond, Washington

Telephone (425) 707-9382

Date: 3/9/05

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]


I hereby certify that this correspondence is being:

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03-10-2005

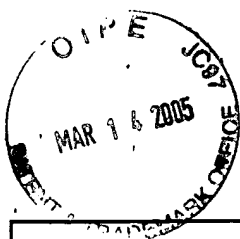
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Signature

Rimma N. Oks

Type or Print Name



Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>				Title Of Invention	Enforcing Currency and Consistency Constraints in Database Query Processing
				Application Number	10/805,083
				Filing Date	03/19/2004
				First Named Inventor	Per-Åke Larson
				Art Unit	Not Yet Available
				Examiner Name	Not Yet Available
Sheet	1	of	3	Attorney Docket Number	306979.01

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document Number - Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A	US-			

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Kind Code <sup>3</sup> Country Code <sup>3</sup> Number <sup>4</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
	B					

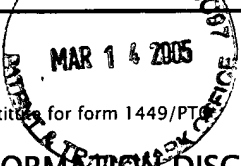
OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	C	R. Alonso, D. Barbará, H. Garcia-Molina, and S. Abad. <i>Quasi-copies: Efficient Data Sharing For Information Retrieval Systems</i> . in EDBT, 1988.	
	D	M. Altinel, C. Bornhövd, S. Krishnamurthy, C. Mohan, H. Pirahesh, and B. Reinwald. <i>Cache Tables: Paving The Way For An Adaptive Database Cache</i> . in VLDB, 2003.	
	E	C. Bornhövd, M. Altinel, S. Krishnamurthy, C. Mohan, H. Pirahesh, and B. Reinwald. <i>Dbcache: Middle-Tier Database Caching For Highly Scalable E-Business Architectures</i> . in SIGMOD, 2003.	

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Information Disclosure Statement—PTO/SB/08a&b  
Matter No.: 306979.01

 <p>Substitution for form 1449/PTO</p> <p><b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b></p> <p>(use as many sheets as necessary)</p>				Title Of Invention	Enforcing Currency and Consistency Constraints in Database Query Processing
				Application Number	10/805,083
				Filing Date	03/19/2004
				First Named Inventor	Per-Åke Larson
				Art Unit	Not Yet Available
				Examiner Name	Not Yet Available
Sheet	2	of	3	Attorney Docket Number	306979.01

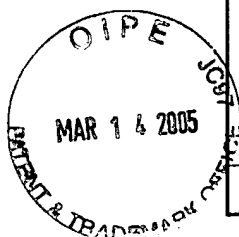
OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
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	F	D. Barbará and H. Garcia-Molina. <i>The Demarcation Protocol: A Technique For Maintaining Constraints In Distributed Database Systems</i> . in EDBT, 1992.	
	G	L. Bright and L. Raschid. <i>Using Latency-Recency Profiles for Data Delivery on the Web</i> . In Proc. in VLDD, 2002.	
	H	A. Gal. <i>Obsolescent Materialized Views in Query Processing of Enterprise Information Systems</i> . in CIKM, 1999.	
	I	H. Garcia-Molina and G. Wiederhold, <i>Read-Only Transactions In A Distributed Database</i> . in TODS, 1982.	
	J	R. Gellersdörfer and M. Nicola, <i>Improving Performance In Replicated Databases Through Relaxed Coherency</i> . in VLDB, 1995.	
	K	J. Goldstein and P. Larson. <i>Optimizing Queries Using Materialized Views: A Practical, Scalable Solution</i> . in SIGMOD, 2001.	
	L	Y. Huang, R. Sloan, and O. Wolfson. <i>Divergence Caching in Client Server Architectures</i> . in PDIS, 1994.	
	M	P. Larson, J. Goldstein, and J. Zhou. <i>Transparent Mid-Tier Database Caching In SQL Server</i> . in SIGMOD, 2003.	
	N	P. Larson, J. Goldstein, and J. Zhou. <i>MTCache: Transparent Mid-Tier Database Caching In SQL Server</i> . in ICDE, 2004.	
	O	A. Labrinidis and N. Roussopoulos. <i>Balancing Performance And Data Freshness In Web Database Servers</i> . in VLDS, 2003.	
	P	C. Olston, B. Loo, and J. Widom. <i>Adaptive Precision Setting for Cached Approximate Values</i> . in SIGMOD, 2001.	
	Q	C. Olston and J. Widom. <i>Offering A Precision Performance Tradeoff For Aggregation Queries Over Replicated Data</i> . in VLDB, 2000.	

Examiner Signature		Date Considered	
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<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Information Disclosure Statement—PTO/SB/08a&b  
Matter No.: 308293.02



Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>		Title Of Invention	Enforcing Currency and Consistency Constraints in Database Query Processing		
		Application Number	10/805,083		
		Filing Date	03/19/2004		
		First Named Inventor	Per-Åke Larson		
		Art Unit	Not Yet Available		
		Examiner Name	Not Yet Available		
Sheet	3	of	3	Attorney Docket Number	306979.01

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	R	C. Pu and A. Left. <i>Replica Control In Distributed Systems: An Asynchronous Approach</i> . in SIGMOD, 1991.	
	S	U. Röhm, K. Böhm, H. Schek, and H. Schuld. <i>FAS - a Freshness-Sensitive Coordination Middleware for a Cluster of OLAP Components</i> . in VLDB, 2002.	
	T	A. Segev and W. Fang. <i>Currency-based Updates To Distributed Materialized Views</i> , in ICDE, 1990.	
	U	L. Seligman and L. Kerschberg. <i>A Mediator For Approximate Consistency: Supporting "Good Enough" Materialized Views</i> . in JIIS, 8(3):203-225, 1997.	
	V	A. Sheth and M. Rusinkiewicz. <i>Management Of Independent Data: Specifying Dependency And Consistency Requirements</i> . in Workshop on the Management of Replicated Data, pages 133-136, 1990.	
	W	G. Wiederhold and X. Qian. <i>Modeling Asynchrony in Distributed Databases</i> . in ICDE, 1987.	
	X	O. Wolfson, B. Xu, S. Chamberlain, and L. Jiang. <i>Moving Objects Databases: Issues And Solutions</i> . in Statistical And Scientific Database Management, pages 111-122, 1998.	
	Y	H. Yu and A. Vahdat. <i>Efficient Numerical Error Bounding For Replicated Network Services</i> . in VLDB, 2000.	

Examiner Signature		Date Considered	
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Information Disclosure Statement—PTO/SB/08a&b  
Matter No.: 308293.02



<b>TRANSMITTAL FORM</b> (to be used for all correspondence after initial filing)	Application Number	10/805,083
	Filing Date	March 19, 2004
	First Named Inventor	Per-Ake Larson
	Group Art Unit	Not Yet Assigned
	Examiner Name	Not Yet Assigned
<input type="checkbox"/> Sent via Express Mail Label No.:	Attorney Docket Number	306979.01

ENCLOSURES (check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached	<input type="checkbox"/> Assignment Papers (for an Application)	<input type="checkbox"/> After Allowance Communication to TC
<input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Drawing(s) ( sheets)	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Declaration <input type="checkbox"/> Newly Executed ( pages) <input type="checkbox"/> A copy from a prior application (37 CFR 1.63(d)) ( pages)	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Proprietary Information
<input checked="" type="checkbox"/> Information Disclosure Statement with Form PTO/SB/08A ( pages)	<input type="checkbox"/> Petition	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Response to Notice to File Missing Parts <input type="checkbox"/> A copy of the Notice to File Missing Parts Under 37 CFR 1.52 or 1.5	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Application Data Sheet
<b>CERTIFICATE OF MAILING OR TRANSMISSION</b> (Under 37 CFR § 1.8(a)) I hereby certify that this correspondence is being: <input checked="" type="checkbox"/> deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450; or <input type="checkbox"/> transmitted by facsimile on the date shown below to the USPTO at (703) _____. <u>03-10-2005</u> <u>[Signature]</u> Date Signature <u>Rimma N. Oks</u> Printed Name	<input checked="" type="checkbox"/> General Power of Attorney (SB80) <input checked="" type="checkbox"/> 37 CFR 3.73(b) Statement <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) ____	<input type="checkbox"/> Request for Corrected Filing Receipt <input checked="" type="checkbox"/> Return Receipt Postcard <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): <input checked="" type="checkbox"/> Electronic copies of (23) IDS cited references, saved on the enclosed CD (1 CD) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Remarks <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees required, or credit any overpayments, to Deposit Account No. 50- 0463 for the above identified patent application.		

SIGNATURE OF ATTORNEY OR AGENT			
Signature	<u>Paul B. Heynssens</u>	Reg. No.	47,648
Name of Attorney or Agent		Paul B. Heynssens	
Date	<u>3/9/05</u>	Tel.	(425) 707-3913
Assignee Name:		Facsimile No.	(425) 708-5046
		MICROSOFT CORPORATION ONE MICROSOFT WAY REDMOND, WA 98052	
Customer Number:		22971	